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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,657	04/05/2002	Bradford G. Crandall JR.	A-70608-7	1054

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06/03/2003

David J. Brezner, Esq.
FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP
Four Embarcadero Center - Suite 3400
San Francisco, CA 94111-4187

EXAMINER

WANG, SHENGJUN

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 06/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n N .

10/007,657

Applicant(s)

CRANDALL ET AL.

Examin r

Shengjun Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the c rrespondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,6-8,15 and 22-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,6-8,15 and 22-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. Receipt of applicants' amendments and remarks submitted March 17, 2003 is acknowledged.

Double Patenting Rejection

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2, 6-8, 15 and 22-24, 26-28, 31-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 7-12 of U.S. Patent No. 5,839,224 (IDS A22) in view of Sotome (IDS A8), Tsuei et al (US 5,589,194) for reasons set forth in the prior office action.

2. Claims 2, 6-8, 15, 25-28, and 30-32, 36, 38, 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,251,951 for reasons set forth in the prior office action.

Claim Rejections 35 U.S.C. – 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 6-8, 15, 22-32, and 36, 38, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sotome (US 4,978,686, A1, IDS of Jan. 10, 2000) in view of Tsuei et al. (US 5,589,194, of record), Yamashita (US 5,696,094) and Frear (IDS C5).

5. Sotome teaches a method of protecting plant from the attack of insect pests, microorganism (including fungi) and pathogenic microbes by spraying or administering (irrigating) thereon a non-toxic and stable composition comprising cinnamic aldehyde and an antioxidant in the form of emulsion or powder. See the abstract and column 2, lines 64-68, and the claims. Similar composition may also be administered to the plant through roots. See, particularly, column 1, lines 46-57. Cinnamic aldehyde is particularly known against soil borne pathogens, such as nematodes, see, particularly, example 3 in columns 9-10. Stability of cinnamic aldehyde is desired for maintaining the bioactivity. See, column 2, lines 26-33.

6. Sotome does not teach expressly to employ beeswax microencapsulated cinnamic aldehyde in the composition, or without using antioxidant in the composition as herein claimed, or to employ surfactants, such as saponin, for the particularly plants herein claimed, or for the particularly plants herein.

However, Tsuei et al. teach that microencapsulation of bioactive agents, such as antimicrobial agent, with beeswax or caruba wax is known to be useful for controlled release or protection of the active agent from oxidation and other degradations. See, particularly, column 2, line 63 bridging column 3, lines 20, column 4, lines 8-15, column 4, line 53 bridging column 5, line 12. Yamashita teaches that nematodes are well-known soil-borne pathogens to many plants

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including tomato, grapes, etc. See, column 1, lines 16-42. Frear teaches that saponin is a well-known spray adjuvant. See, page 185, the last paragraph.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to further modify the method of Sotome by employing beeswax microencapsulated cinnamic aldehyde to the composition, or further employ saponin in the composition, or to employ the claimed method to plants such as grape, tomato etc.

A person of ordinary skill in the art would have been motivated to further modify the method of Sotome by employing beeswax microencapsulated cinnamic aldehyde to the composition because microorganism and beeswax microencapsulation of the cinnamic compounds are known to be useful for protecting the compound from oxidation, or other premature reaction. The employment of saponin in the composition for spray is obvious because saponin is a well-known spray adjuvant. Employ the cinnamic containing composition to plants such as grape, tomato is obvious because the composition is known to be useful against the plants' microbial pathogens. Further, employment of antioxidant as suggested by Sotome would have not been necessary since microencapsulation would protect the active ingredients from oxidation.

7. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sotome (US 4,978,686, A1, IDS of Jan. 10, 2000) in view of Tsuei et al. (US 5,589,194, of record), Yamashita (US 5,696,094) and Frear (IDS C5), and in further view of Winston (U.S. 5,415,877).

8. Claim 33 and 34 are obvious over the cited references for reasons as discussed above, and in further view of Winston.

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9. Note previous cited references do not teach expressly the employment of sodium bicarbonate as agent against microbial pathogen. However, Winston teaches that salt such as sodium bicarbonate is a well-known fungicide ingredient. See, particularly, column 1, lines 34-37. It is prima facie obvious to combine two compositions each of which is taught in the prior art to be useful for same purpose in order to form third composition that is to be used for very the same purpose; idea of combining them flows logically from their having been individually taught in prior art; thus, the claimed invention which employs a combination of two known fungicides sets forth prima facie obvious subject matter. See In re Kerkhoven, 205 USPQ 1069.

10. Claims 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sotome (US 4,978,686, A1, IDS of Jan. 10, 2000) in view of Tsuei et al. (US 5,589,194, of record), Yamashita (US 5,696,094) and Frear (IDS C5), in further view of Keen et al. (CAPLUS Abstract, AN 1979:471805).

11. Claims 35 and 37 are obvious over the cited references for reasons stated above, and in further view of Keen et al.

12. The previous cited references do not teach expressly the employment of the particular aldehyde herein. However, Keen et al. teaches that coniferyl aldehyde is known to be useful as antimicrobial agents, particularly for plant protection. See, the abstract. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, to employ coniferyl aldehyde in Sotome's method because coniferyl aldehyde is structurally similar to cinnamic aldehyde, and is known to be useful as antifungal agents.

Response to the Arguments

Applicants' amendments and remarks submitted March 17, 2003 have been fully considered, but are not persuasive for reasons discussed below.

13. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

14. Applicants' remarks regarding Yamashita reference is in error. Particularly, US Patent 5,696,094 (Yamashita et al.) is a continuation of US application, which was filed August 28, 1994.

15. The arguments regarding the antioxidants are moot in view of the new ground of rejection. Employment of the method to tomato, grapes is obvious since it is known that nematodes are well-known soil-borne pathogens to tomato, grapes etc. Further, a method known to be useful generally for protecting crops against attack by insect, fungi, or bacteria, is reasonably expected to be useful to protect the particular crops herein.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang, Ph.D. whose telephone number is (703) 308-4554. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (703) 305-1877. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Patent Examiner
SHENGJUN WANG
PATENT EXAMINER

Shengjun Wang

May 23, 2003